

WHAT IS CLAIMED IS:

1. A transformer comprising:
a plurality of metal lines; and
a magnetic material provided about the plurality of metal lines, the magnetic material including a structure to reduce Eddy currents flowing in the magnetic material.
2. The transformer of claim 1, wherein the structure comprises a plurality of slots provided in the magnetic material.
3. The transformer of claim 2, wherein the slots extend substantially perpendicular to the plurality of metal lines.
4. The transformer of claim 1, wherein the structure comprises a laminated magnetic structure that includes layers of magnetic material and insulation material.
5. The transformer of claim 4, wherein the insulation material comprises one of an oxide and a nitride.
6. The transformer of claim 4, wherein the insulative material comprises one of a cobalt oxide, a cobalt nitride and a cobalt oxynitride.

7. The transformer of claim 1, wherein the magnetic material is chosen from the group consisting of amorphous CoZrTa, CoFeHfO, CoAlO, FeSiO, CoFeAlO, CoNbTa, CoZr, and other amorphous cobalt alloys.

8. The transformer of claim 1, further comprising insulative material formed between the plurality of metal lines and the magnetic material.

9. A chip comprising:
a memory device; and
a power distribution unit, the power distribution unit including a plurality of conductive lines and magnetic material provided about the conductive lines, the magnetic material including one of slots and a laminated structure.

10. The chip of claim 9, wherein the one of the slots and the laminated structure reduces Eddy currents flowing in the magnetic material.

11. The chip of claim 9, wherein the magnetic material includes a plurality of slots provided in the magnetic material and that extend substantially perpendicular to plurality of conductive lines.

12. The chip of claim 9, wherein the magnetic material comprises a laminated magnetic structure that includes layers of magnetic material and insulation material.

13. The chip of claim 12, wherein the insulation material comprises one of an oxide and a nitride.

14. The chip of claim 12, wherein the insulation material comprises one of a cobalt oxide, a cobalt nitride and a cobalt oxynitride.

15. The chip of claim 9, wherein the magnetic material is chosen from the group consisting of amorphous CoZrTa , CoFeHfO , CoAlO , FeSiO , CoFeAlO , CoNbTa , CoZr , and other amorphous cobalt alloys.

16. The chip of claim 9, further comprising insulative material formed between the conductive lines and the magnetic material.

17. A computer system comprising:
a die having a power converter; and
an off-die cache, the power converter including a plurality of metal lines and magnetic material provided about the metal lines, the magnetic material including one of slots and a laminated structure.

18. The computer system of claim 17, wherein the one of the slots and the laminated structure reduces Eddy currents flowing in the magnetic material.

19. The computer system of claim 17, wherein the magnetic material includes a plurality of slots provided in the magnetic material and that extend substantially perpendicular to plurality of metal lines.

20. The computer system of claim 17, wherein the magnetic material comprises a laminated magnetic structure that includes layers of magnetic material and insulation material.

21. The computer system of claim 17, wherein the magnetic material is chosen from the group consisting of amorphous CoZrTa, CoFeHfO, CoAlO, FeSiO, CoFeAlO, CoNbTa, CoZr, and other amorphous cobalt alloys.

22. The computer system of claim 17, further comprising insulative material formed between the metal lines and the magnetic material.

23. A method of forming a transformer comprising:
providing a plurality of metal lines; and
providing magnetic material around the metal lines, the magnetic material including a structure to reduce Eddy currents flowing in the magnetic material.

24. The method of claim 23, wherein the structure comprises a plurality of slots provided in the magnetic material.

25. The method of claim 24, wherein providing the magnetic material comprises patterning and etching the magnetic material including the slots.

26. The method of claim 24, wherein the structure comprises a laminated magnetic structure including a plurality of metal layers and insulative material.

27. The method of claim 24, further comprising providing insulating material about the metal lines.

28. The method of claim 27, further comprising planarizing the insulating material using chemical mechanical polishing.